

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A supported catalyst composition system comprising
 - (a) a dehydrated support material,
 - (b) a transition metal compound, and
 - (c) an activator

wherein said support material ~~has been~~ is dehydrated and then pretreated separately with at least two different and separate organoaluminum compounds prior to contact with both the transition metal compound (b) and the activator (c).

2. (Previously presented) A supported catalyst system according to claim 1 wherein the support is a particulated solid material.

3. (Original) A supported catalyst system according to claim 2 wherein the support is silica.

4. (Previously presented) A supported catalyst system according to claim 1, 2 or 3 wherein the organoaluminium compounds are trialkylaluminium compounds.

5. (Previously presented) A supported catalyst system according to claim 1 wherein the organoaluminium compounds are contacted sequentially with the support material.

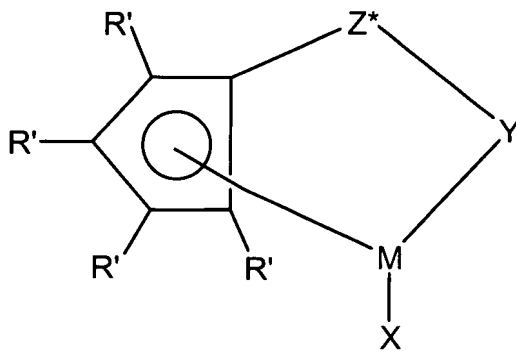
6. (Previously presented) A supported catalyst system according to claim 1 wherein the transition metal compound is a metallocene.

7. (Previously presented) A supported catalyst system according to claim 6 wherein the metallocene has the formula:



wherein Cp is a single cyclopentadienyl or substituted cyclopentadienyl group optionally covalently bonded to M through a substituent, M is a Group VIA metal bound in a η^5 bonding mode to the cyclopentadienyl or substituted cyclopentadienyl group, X each occurrence is hydride or a moiety selected from the group consisting of halo, alkyl, aryl, aryloxy, alkoxy, alkoxyalkyl, amidoalkyl, and siloxyalkyl having up to 20 non-hydrogen atoms and neutral Lewis base ligands having up to 20 non-hydrogen atoms or optionally one X together with Cp forms a metallocycle with M and n is dependent upon the valency of the metal.

8. (Previously presented) A supported catalyst system according to claim 6 wherein the metallocene is represented by the general formula:



wherein:-

R' each occurrence is independently selected from hydrogen, hydrocarbyl, silyl, germyl, halo, cyano, and combinations thereof, said R' having up to 20 nonhydrogen atoms, and optionally, two R' groups (where R' is not hydrogen, halo or cyano) together form a divalent derivative thereof connected to adjacent positions of the cyclopentadienyl ring to form a fused ring structure;

X is a neutral η^4 bonded diene group having up to 30 non-hydrogen atoms, which forms a π -complex with M;

Y is -O-, -S-, -NR^{*}-, -PR^{*}-,

M is titanium or zirconium in the +2 formal oxidation state;

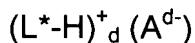
Z^{*} is SiR^{*}₂, CR^{*}₂, SiR^{*}₂SiR^{*}₂, CR^{*}₂CR^{*}₂, CR^{*}=CR^{*}, CR^{*}₂SiR^{*}₂, or GeR^{*}₂,

wherein:

R^{*} each occurrence is independently hydrogen, or a member selected from hydrocarbyl, silyl, halogenated alkyl, halogenated aryl, and combinations thereof, said R^{*} having up to 10 non-hydrogen atoms, and optionally, two R^{*} groups from Z^{*} (when R^{*} is not hydrogen), or an R^{*} group from Z^{*} and an R^{*} group from Y form a ring system.

9. (Previously presented) A supported catalyst system according to claim 1 wherein the activator is an aluminoxane or a borane.

10. (Previously presented) A supported catalyst system according to claim 1 wherein the activator has the formula:



wherein

L^{*} is a neutral Lewis base

(L^{*}-H)⁺_d is a Bronsted acid

A^{d-} is a non-coordinating compatible anion having a charge of d^- , and d is an integer from 1 to 3.

11. (Original) A supported catalyst system according to claim 10 wherein the anion comprises a boron metal.

12. (Original) A supported catalyst system according to claim 10 wherein the activator comprises a cation and an anion and wherein the anion has at least one substituent comprising a moiety having an active hydrogen.

13. (Currently amended) A supported catalyst system comprising

- (a) a dehydrated support material,
- (b) a transition metal compound, and
- (c) an activator comprising (i) an organoaluminium compound and (ii) an organoboron compound,

wherein said support material ~~has been~~ is dehydrated and then pretreated separately with at least two different and separate organoaluminum compounds prior to contact with both the transition metal compound (b) and the activator (c).

14. (Original) A supported catalyst system according to claim 13 wherein the activator comprises a trialkylaluminium compound and a triarylboron compound.

15. (Previously presented) A process for the polymerisation of olefin monomers selected from (a) ethylene, (b) propylene (c) mixtures of ethylene and propylene and (d) mixtures of (a), (b) or (c) with one or more other alpha-olefins, said process performed under polymerisation conditions in the presence of a supported catalyst system as claimed in claim 1 or 13.

16. (Previously presented) A process for the polymerisation of ethylene or the copolymerisation of ethylene and α -olefins having from 3 to 10 carbon atoms, said process performed under polymerisation conditions in the presence of a supported polymerisation catalyst system as claimed in claim 1 or 13.
17. (Previously presented) A process according to claim 15 wherein the α -olefin is 1-butene, 1-hexene, 4-methyl-1-pentene or 1-octene.
18. (Previously presented) A process- according to any of claim 15 performed in the solution, slurry or gas phase.
19. (Previously presented) A process according to any of claim 15 performed in a fluidised bed gas phase reactor.
20. (Currently amended) A process for the preparation of copolymers of ethylene and α -olefins having
- (a) a melt strength (16 Mpa) in the range 3 – 12 cN, and
 - (b) a molecular weight distribution (M_w/M_n) of > 2.
- said process comprising contacting ethylene and one or more α -olefins in the presence of ~~[[a]]~~ the supported metallocene catalyst system as claimed in claim 1 or 13 wherein the transition metal compound is a metallocene.
21. (Currently amended) A dehydrated catalyst support material comprising dehydrated support material that has been pretreated with at least two different and separate trialkylaluminum ~~organoaluminum~~ compounds prior to the addition of further catalyst components.